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Anti-CP39 HU24-31 IN NSKG1 (VERSION #1)

Pac I(271)

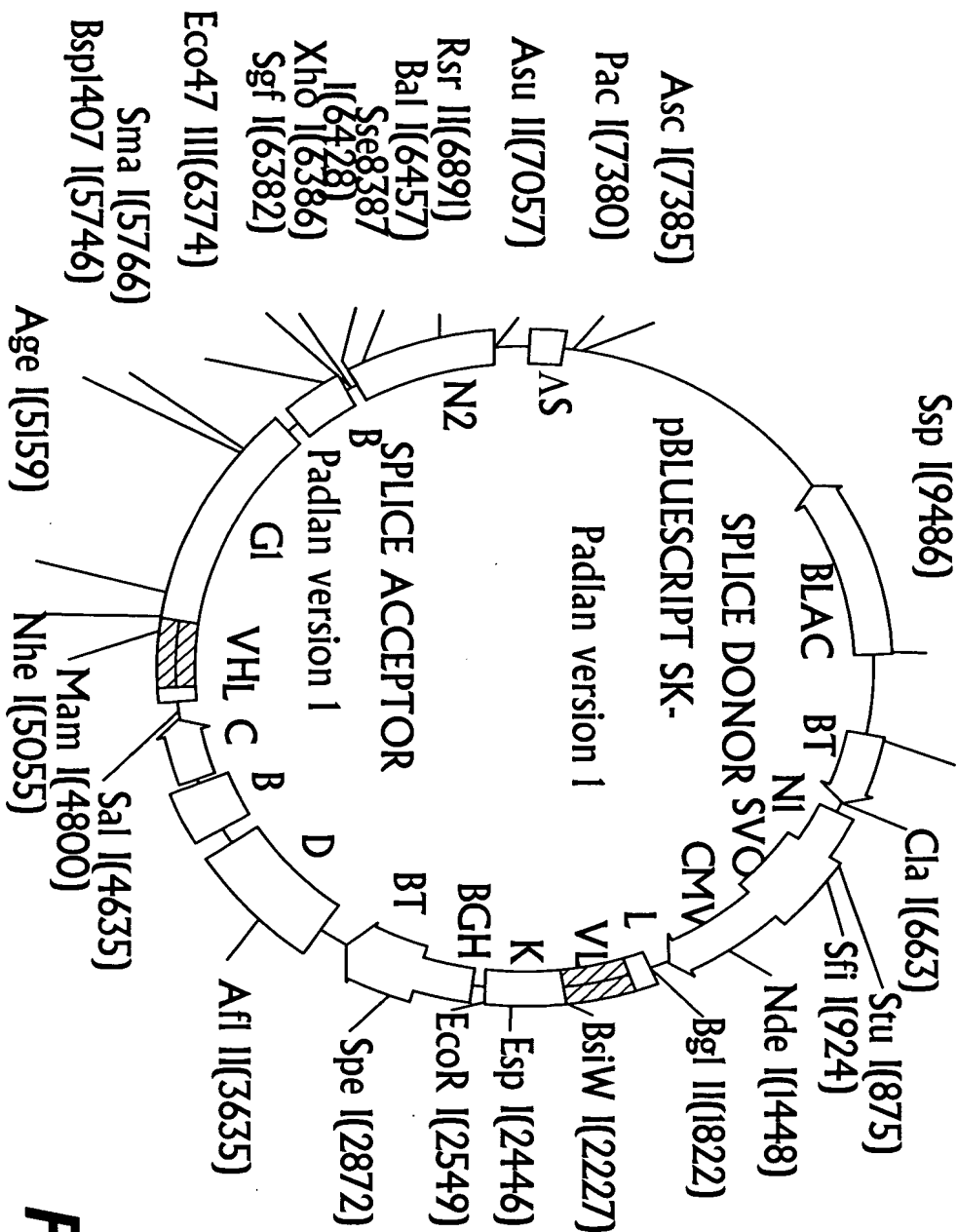


FIG. 1

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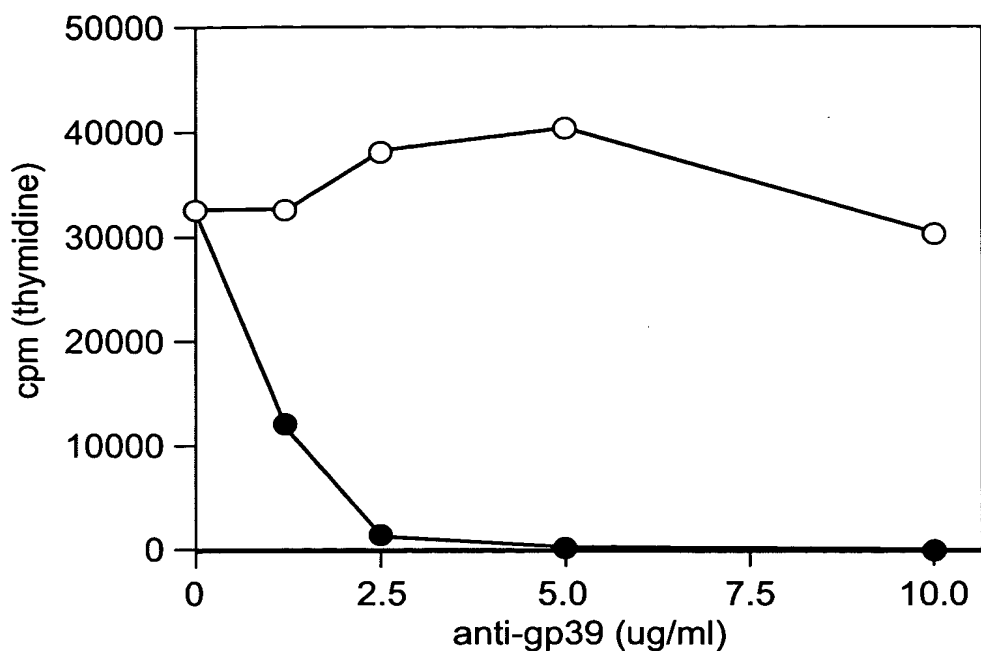


FIG. 2A

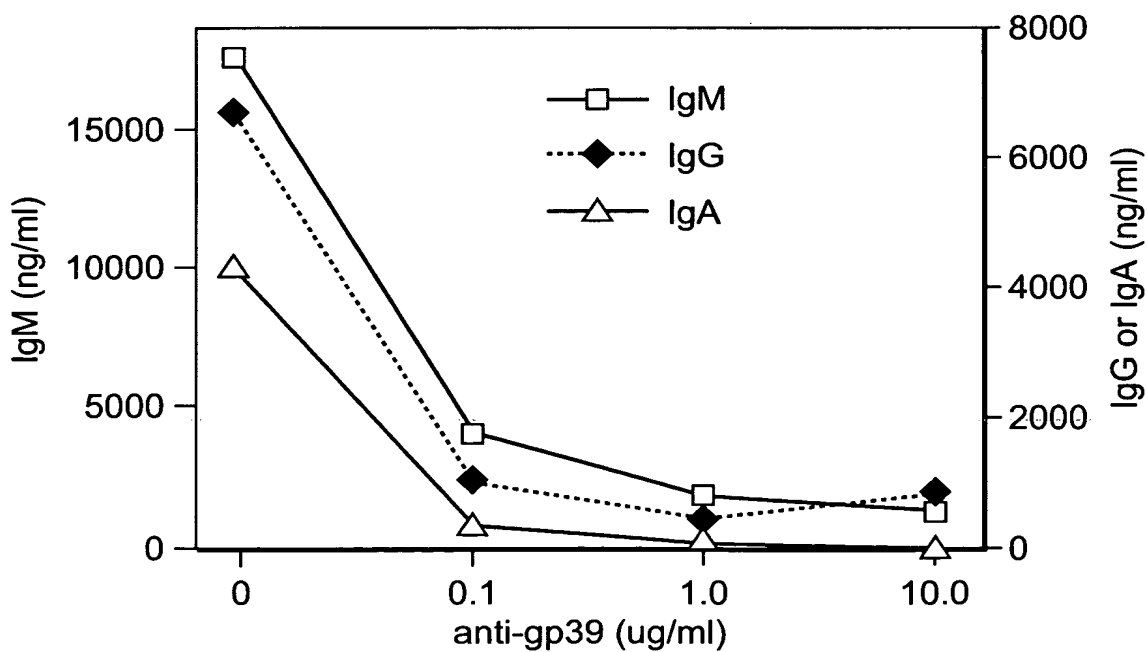


FIG. 2B

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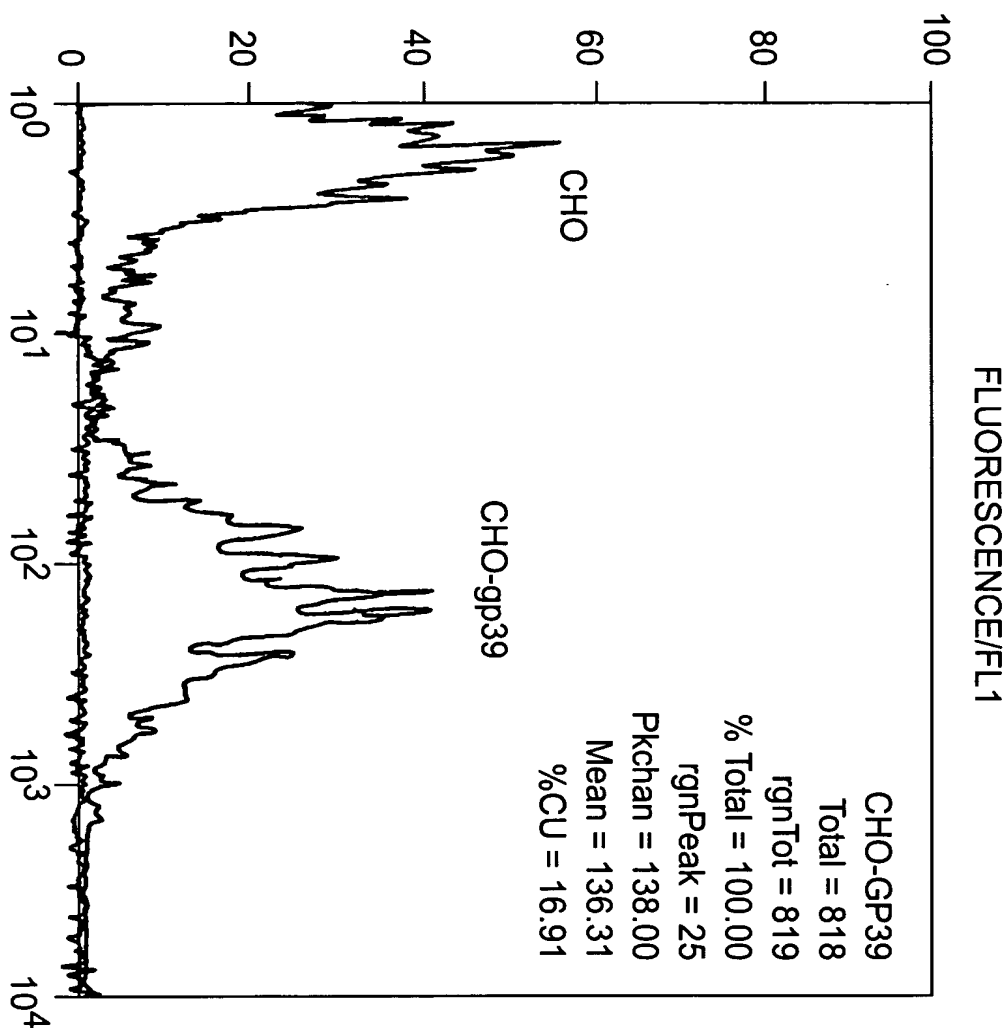


FIG. 3





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24-31 Humanized V_L #1

5'	BglIII			9	18			27	36			45	54					
	AGA	TCT	CTC	ACC	ATG	GGC	TTC	AAG	ATG	GAG	TCA	CAG	TTT	CTG	GCC	TTT	GTA	TTC
	---	---	---	---	M	G	F	K	M	E	S	Q	F	L	A	F	V	F
	63			72			81			FR1	90	99			108			
	GCG	TTT	CTC	TGG	TTG	TCT	GGT	GTT	GAT	GGA	GAC	ATT	GTG	ATG	ACC	CAG	TCT	CCA
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	A	F	L	W	L	S	G	V	D	G	D	I	V	M	T	Q	S	P
	117			126			135			144			153			CDR1	162	
	TCT	TTC	CTC	TCC	GCC	TCC	GTA	GGA	GAC	AGG	GTC	ACC	ATC	ACC	TGC	AAG	GCC	AGT
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	S	F	L	S	A	S	V	G	D	R	V	T	I	T	C	K	A	S
	171			180			189			FR2	198	207			216			
	CAG	AAT	GTG	ATT	ACT	GCT	GTA	GCC	TGG	TAT	CAA	CAG	AAA	CCA	GGA	AAG	TCT	CCT
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Q	N	V	I	T	A	V	A	W	Y	Q	Q	K	P	G	K	S	P
	225			234			CDR2	243	252			FR3	261	270				
	AAA	TTG	CTG	ATT	TAC	TCG	GCA	TCC	AAT	CGG	TAC	ACT	GGA	GTC	CCT	GAT	CGC	TTC
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	K	L	L	I	Y	S	A	S	N	R	Y	T	G	V	P	D	R	F
	279			288			297			306			315			324		
	TCA	GGC	AGT	GGG	TCT	GGG	ACA	GAT	TTC	ACT	CTC	ACC	ATC	AGC	TCT	CTC	CAG	CCA
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	Q	P
	333			342			351			CDR3	360	369			378			
	GAA	GAC	TTC	GCA	GAT	TAT	TTC	TGC	CAG	CAA	TAT	AAC	AGC	TAT	CCG	TAC	ACG	TTC
	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	E	D	F	A	D	Y	F	C	Q	Q	Y	N	S	Y	P	Y	T	F
	FR4			396			405			BsiWI			3'					
	GGA	GGG	GGG	ACC	AAG	CTG	GAA	ATC	AAA	CGT	ACG							
	---	---	---	---	---	---	---	---	---	---	---							
	G	G	G	T	K	L	E	I	K	R	T							

FIG. 4

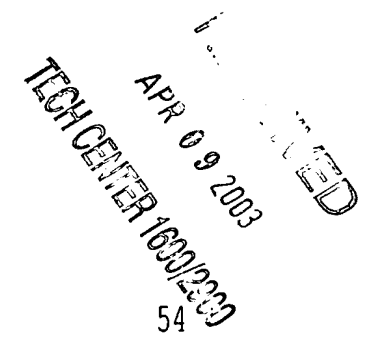


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24-31 Humanized V_L #2

5'	BglIII		9	18		27		36		45		54						
	AGA	TCT	CTC	ACC	ATG	GGC	TTC	AAG	ATG	GAG	TCA	CAG	TTT	CTG	GCC	TTT	GTA	TTC
					M	G	F	K	M	E	S	Q	F	L	A	F	V	F
			63	72		81		90		FR1	99		108					
	GCG	TTT	CTC	TGG	TTG	TCT	GGT	GTT	GAT	GGA	GAC	ATT	GTG	ATG	ACC	CAG	TCT	CCA
	A	F	L	W	L	S	G	V	D	G	D	I	V	M	T	Q	S	P
			117	126		135		144		153		CDR1	162					
	GAT	TCT	CTC	GCC	GTG	TCC	CTC	GGA	GAG	AGG	GCC	ACC	ATC	AAC	TGC	AAG	GCC	AGT
	D	S	L	A	V	S	L	G	E	R	A	T	I	N	C	K	A	S
			171	180		189		FR2	198		207		216					
	CAG	AAT	GTG	ATT	ACT	GCT	GTA	GCC	TGG	TAT	CAA	CAG	AAA	CCA	GGA	CAA	TCT	CCT
	Q	N	V	I	T	A	V	A	W	Y	Q	Q	K	P	G	Q	S	P
			225	234		CDR2	243		252		FR3	261		270				
	AAA	TTG	CTG	ATT	TAC	TCG	GCA	TCC	AAT	CGG	TAC	ACT	GGA	GTC	CCT	GAT	CGC	TTC
	K	L	L	I	Y	S	A	S	N	R	Y	T	G	V	P	D	R	F
			279	288		297		306		315		324						
	TCA	GGC	AGT	GGG	TCT	GGG	ACA	GAT	TTC	ACT	CTC	ACC	ATC	AGC	TCT	CTC	CAG	GCC
	S	G	S	G	S	G	T	D	F	T	L	T	I	S	S	L	Q	P
			333	342		351		CDR3	360		369		378					
	GAA	GAC	GTG	GCA	GAT	TAT	TTC	TGC	CAG	CAA	TAT	AAC	AGC	TAT	CCG	TAC	ACG	TTC
	E	D	V	A	D	Y	F	C	Q	Q	Y	N	S	Y	P	Y	T	F
			387	396		405		BsiWI		3'								
	GGA	GGG	GGG	ACC	AAG	CTG	GAA	ATC	AAA	CGT	ACG							
	G	G	G	T	K	L	E	I	K	R	T							

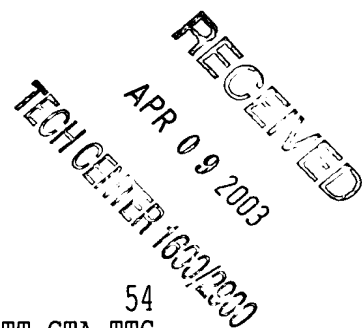
FIG. 5



24-31 Humanized V_H #1

5'	<u>SalI</u>		9			18			27			36			45			54		
	GTC	GAC	ATG	ATG	GTG	TTA	AGT	CTT	CTG	TAC	CTG	TTG	ACA	GCC	CTT	CCG	GGT	TTC		
			M	M	V	L	S	L	L	Y	L	L	T	A	L	P	G	F		
	CTG	TCA	63 FR1			72			81			90			99			108		
	GAG	GTG	CAG	CTT	CAG	GAG	TCA	GGA	CCT	GGC	CTC	GTG	AAA	CCT	TCT	GAG				
	L	S	E	V	Q	L	Q	E	S	G	P	G	L	V	K	P	S	E		
	ACT	CTG	117			126			135			144			153 CDR1			162		
	TCC	CTC	ACC	TGT	ACC	GTC	TCT	GGC	GAC	TCC	ATC	ACT	AAT	GGT	TTC	TGG				
	T	L	S	L	T	C	T	V	S	G	D	S	I	T	N	G	F	W		
	ATC	TGG	171 FR2			180			189			198			207 CDR2			216		
	ATC	CGG	AAA	CCA	CCA	GGG	AAT	AAA	CTT	GAG	TAC	ATG	GGC	TAC	ATA	AGT				
	I	W	I	R	K	P	P	G	N	K	L	E	Y	M	G	Y	I	S		
	TAC	AGT	225			234			243			252			261 FR3			270		
	GGT	AGC	ACT	TAC	TAC	AAT	CCA	TCT	CTC	AAG	AGT	CGA	ATC	TCC	ATC	TCT				
	Y	S	G	S	T	Y	Y	N	P	S	L	K	S	R	I	S	I	S		
	CGC	GAC	279			288			297			306			315			324		
	ACA	TCC	AAG	AAC	CAG	TTC	TCT	CTA	AAG	TTG	TCT	TCT	GTG	ACT	GCC	GCC				
	R	D	T	S	K	N	Q	F	S	L	K	L	S	S	V	T	A	A		
	GAC	ACA	333			342			351 CDR3			360			369			378		
	GGC	GTG	TAT	TAC	TGT	GCC	TGC	CGC	AGT	TAC	GGG	AGG	ACC	CCG	TAC	TAC				
	D	T	G	V	Y	Y	C	A	C	R	S	Y	G	R	T	P	Y	Y		
	TTT	GAC	387			396			405			414			NheI					
	TTC	TGG	GGC	CAA	GGC	ACC	ACT	CTC	ACC	GTC	TCC	TCA	GCT	AGC	3'					
	F	D	F	W	G	Q	G	T	T	L	T	V	S	S	A	S				

FIG. 6



APPROVED	O.G. FIG.	
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FIG. 7



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Anti-gp39 24-31 V_H Sequence

O.G. F.I.G.	SUBCLASS
	CLASS
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5'	SalI	9	18	27	36	45	54	
	GTC GAC	ATG ATG GTG TTA AGT CTT CTG TAC CTG TTG ACA GCC CTT CCG GGT TTC						
		M M V L S L L Y L L T A L P G F						
		+1						
	CTG TCA	63 FR1 72 81 90 99 108						
		GAG GTG CAG CTT CAG GAG TCA GGA CCT AGC CTC GTG AAA CCT TCT CAG						
	L S	E V Q L Q E S G P S L V K P S Q						
		117 126 135 144 153 CDR1 162						
	ACT CTG TCC CTC ACC TGT TCT GTC ACT GGC GAC TCC ATC ACT	AAT GGT TTC TGG						
	T L S L T C S V T G D S I T	N G F W						
		171 FR2 180 189 198 207 CDR2 216						
	ATC TGG ATC CGG AAA TTC CCA GGG AAT AAA CTT GAG TAC ATG GGC	TAC ATA AGT						
	I W I R K F P G N K L E Y M G	Y I S						
		225 234 243 252 261 FR3 270						
	TAC AGT GGT AGC ACT TAC TAC AAT CCA TCT CTC AAG AGT CGA ATC TCC ATC ACT							
	Y S G S T Y Y N P S L K S	R I S I T						
		279 288 297 306 315 324						
	CGC GAC ACA TCC CAG AAC CAG TTC TAC CTA CAA TTG AAT TCT GTG ACT ACT GAG							
	R D T S Q N Q F Y L Q L N S V T T E							
		333 342 351 CDR3 360 369 378						
	GAC ACA GGC ACA TAT TAC TGT GCC TGC CGC AGT TAC GGG AGG ACC CCG TAC TAC							
	D T G T Y Y C A C	R S Y G R T P Y Y						
		387 FR4 396 405 414 423 NheI						
	TTT GAC TTC TGG GGC CAA GGC ACC ACT CTC ACC GTC TCC TCA GCT AGC 3'							
	F D F	W G Q G T T L T V S S A S						

FIG. 8



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DIRECT BINDING OF ANTI-gp39 ANTIBODIES TO mgp39 CHO CELLS

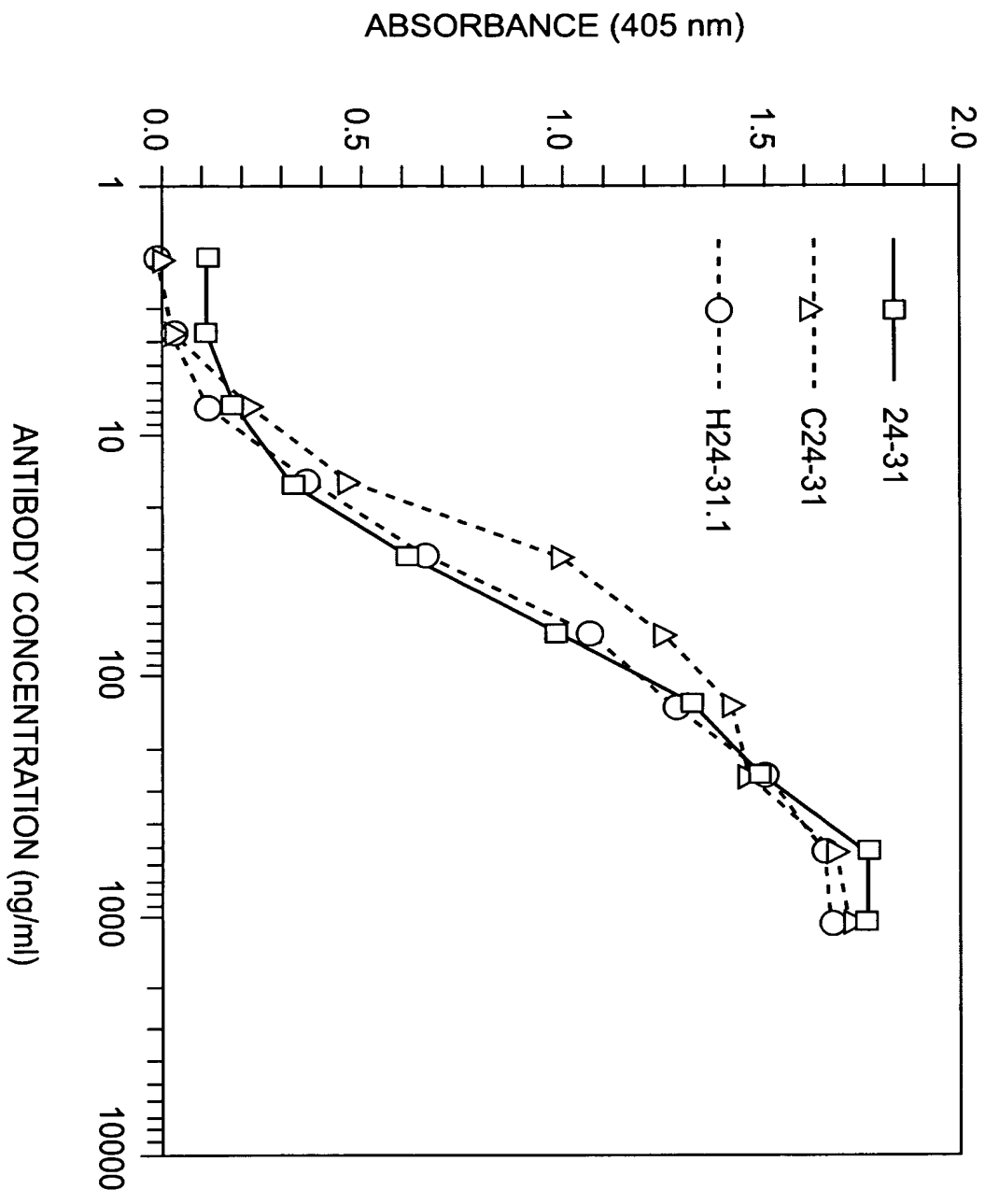


FIG. 9

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COMPETITION BINDING OF 200 ng/ml MOUSE ANTI-gp39 BIOTIN
 WITH ANTI-gp39 ANTIBODIES ON mpg39 CHO CELLS

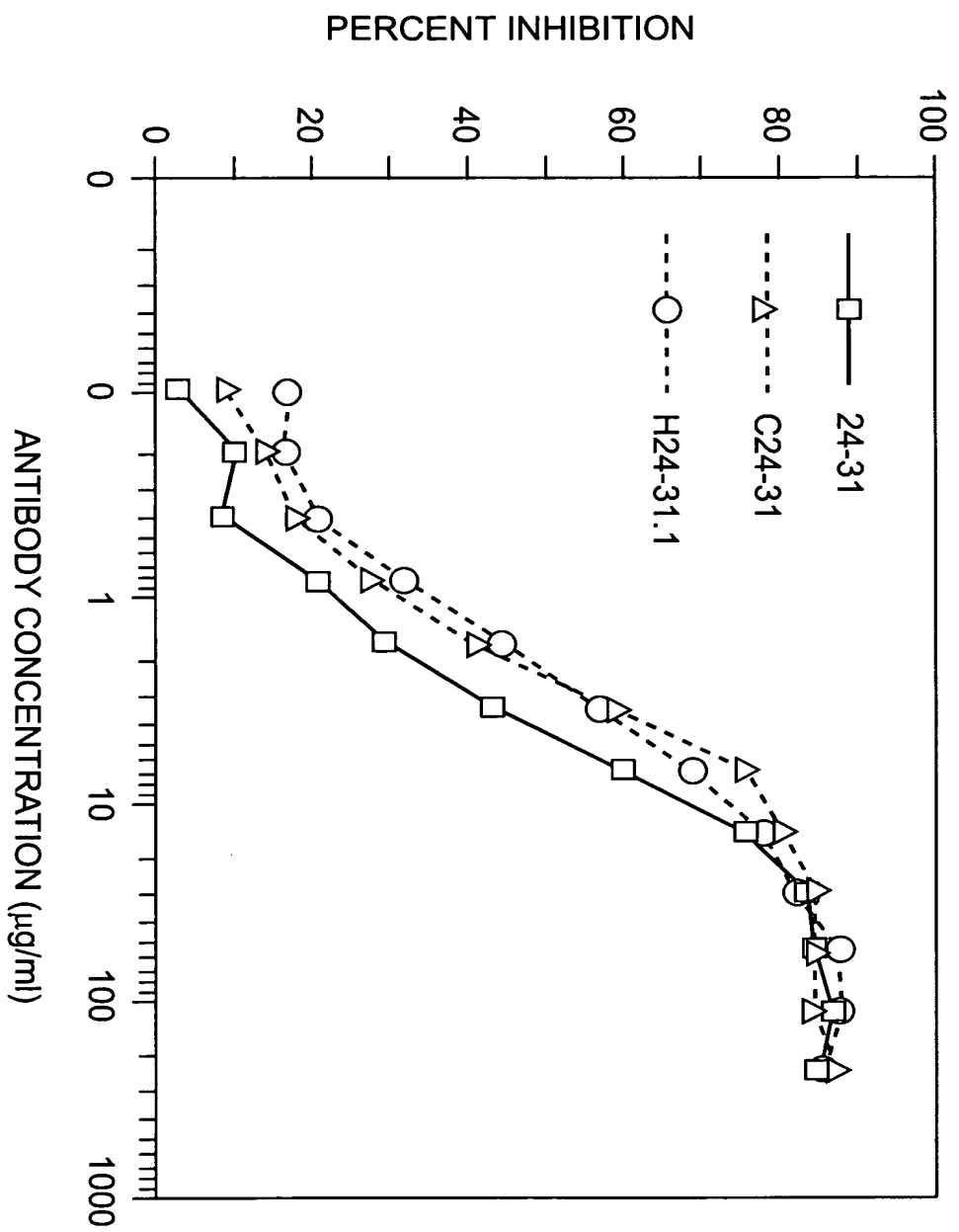
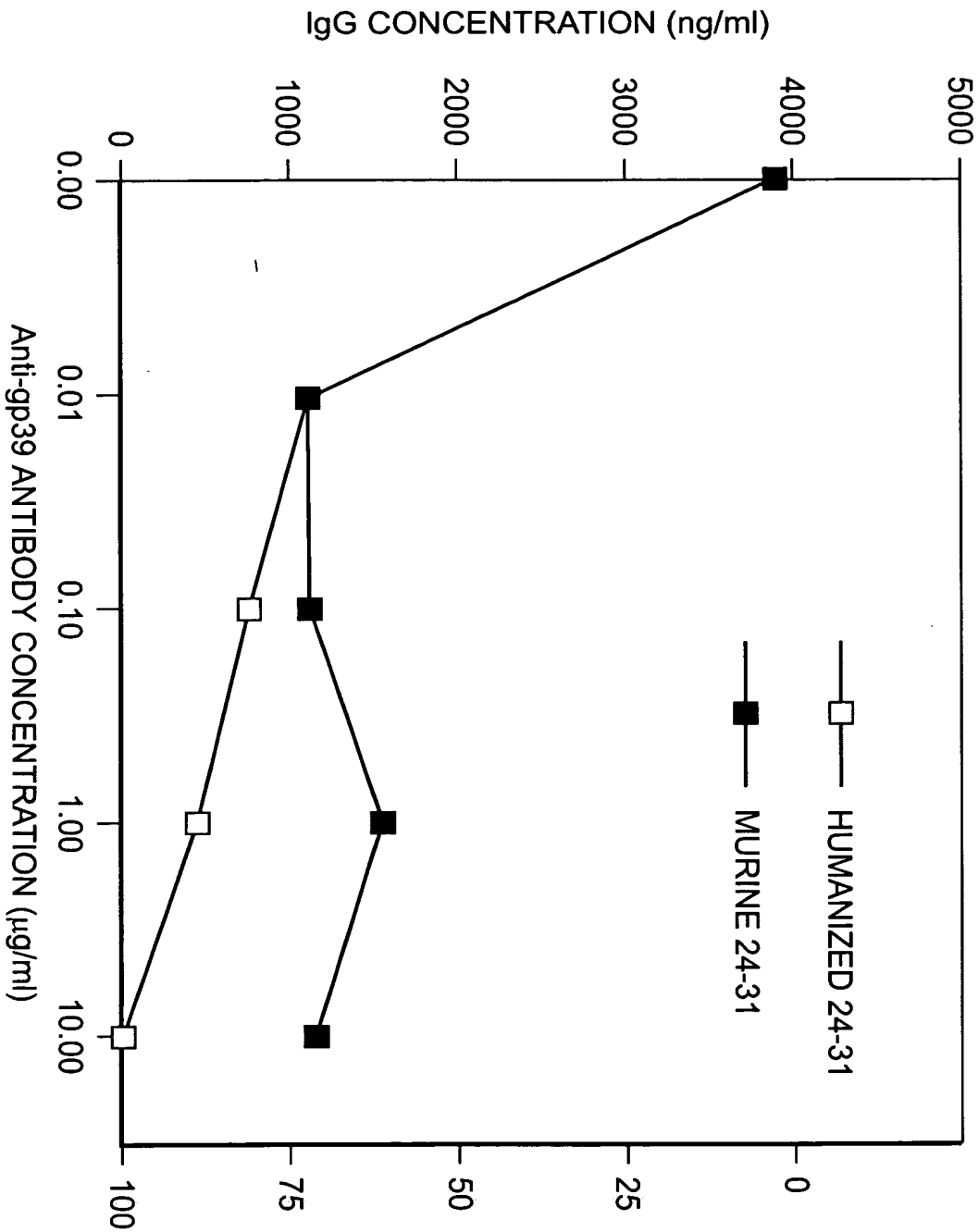


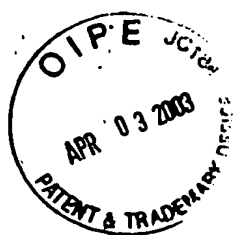
FIG. 10



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INVENTOR	SUBCLASS



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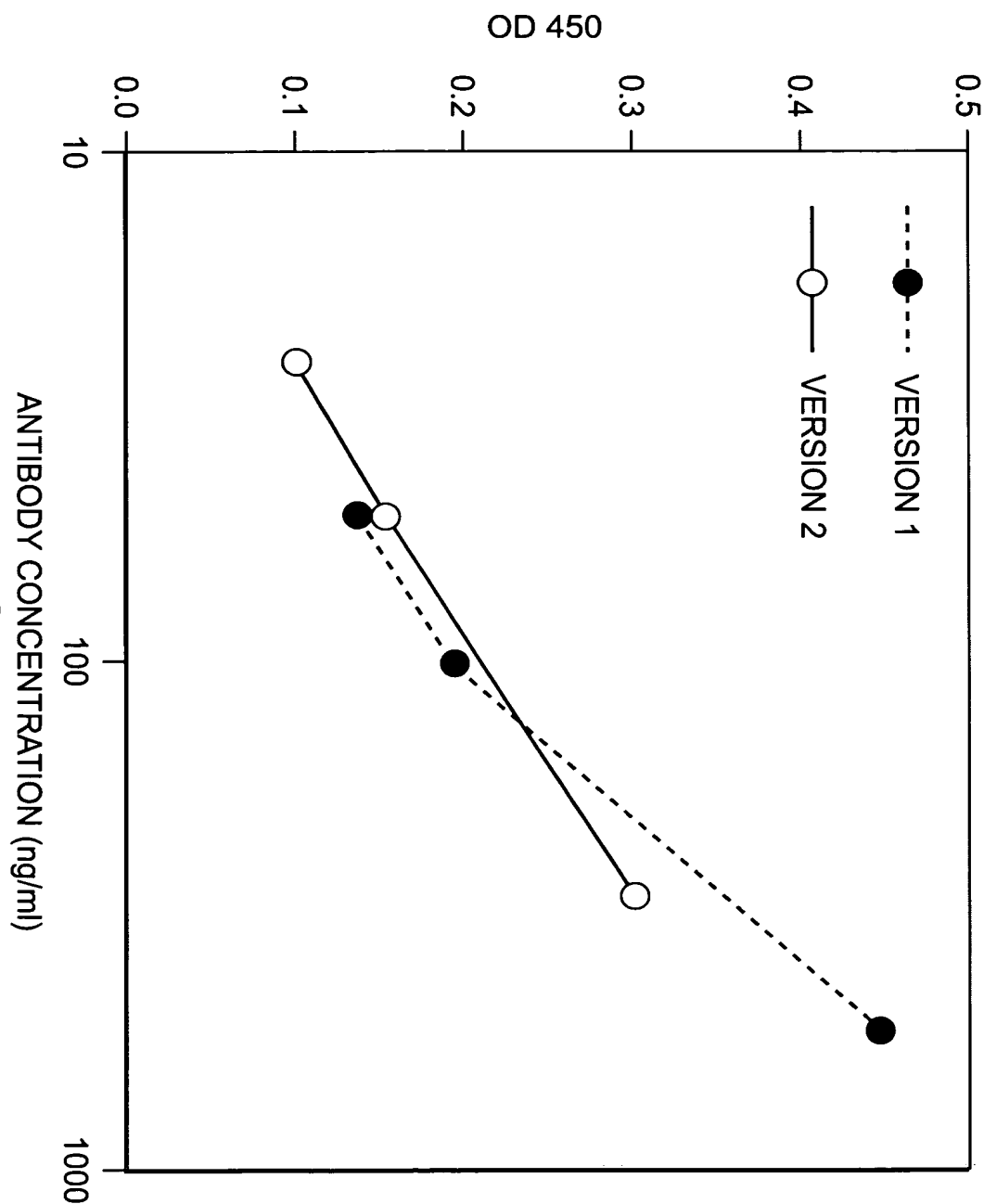


FIG. 12

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	CLASS	
DRAFTSMAN		

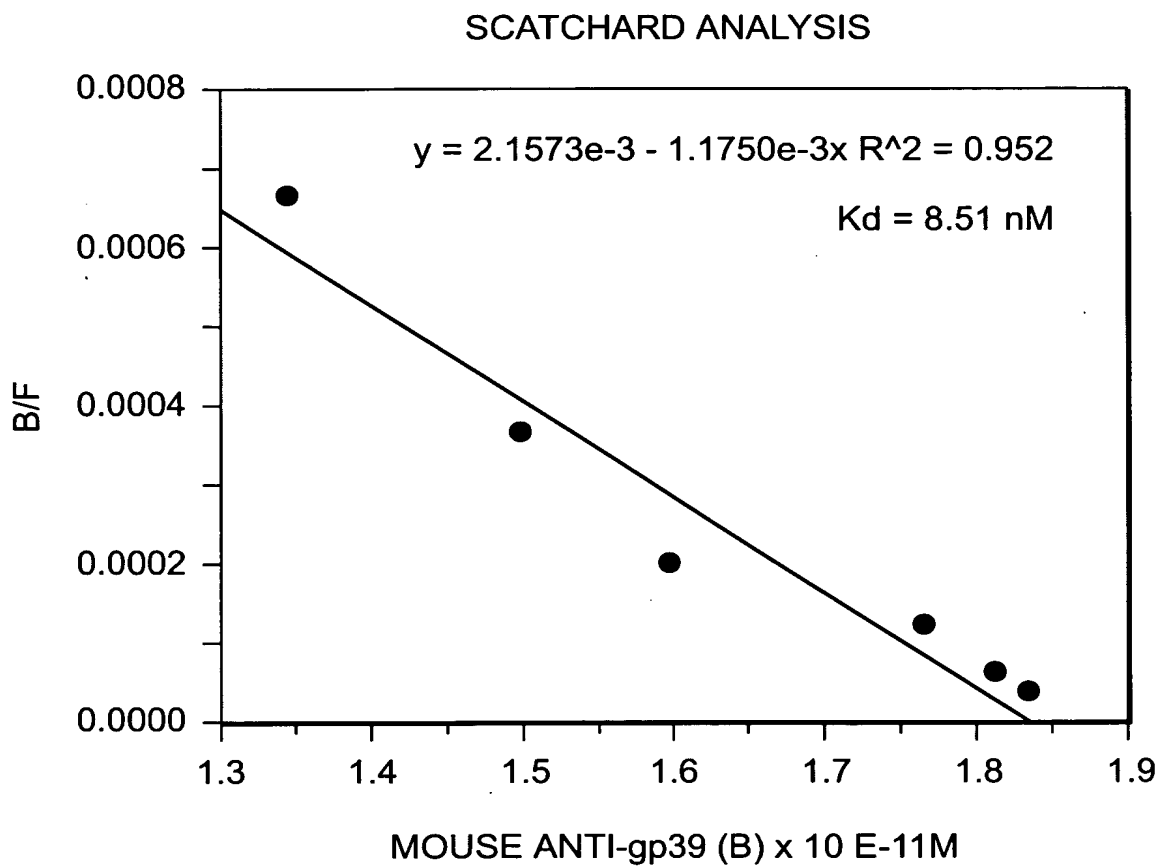


FIG. 13



APPROVED BY DRAFTSMAN	O.G. FIG.	
	CLASS	SUBCLASS

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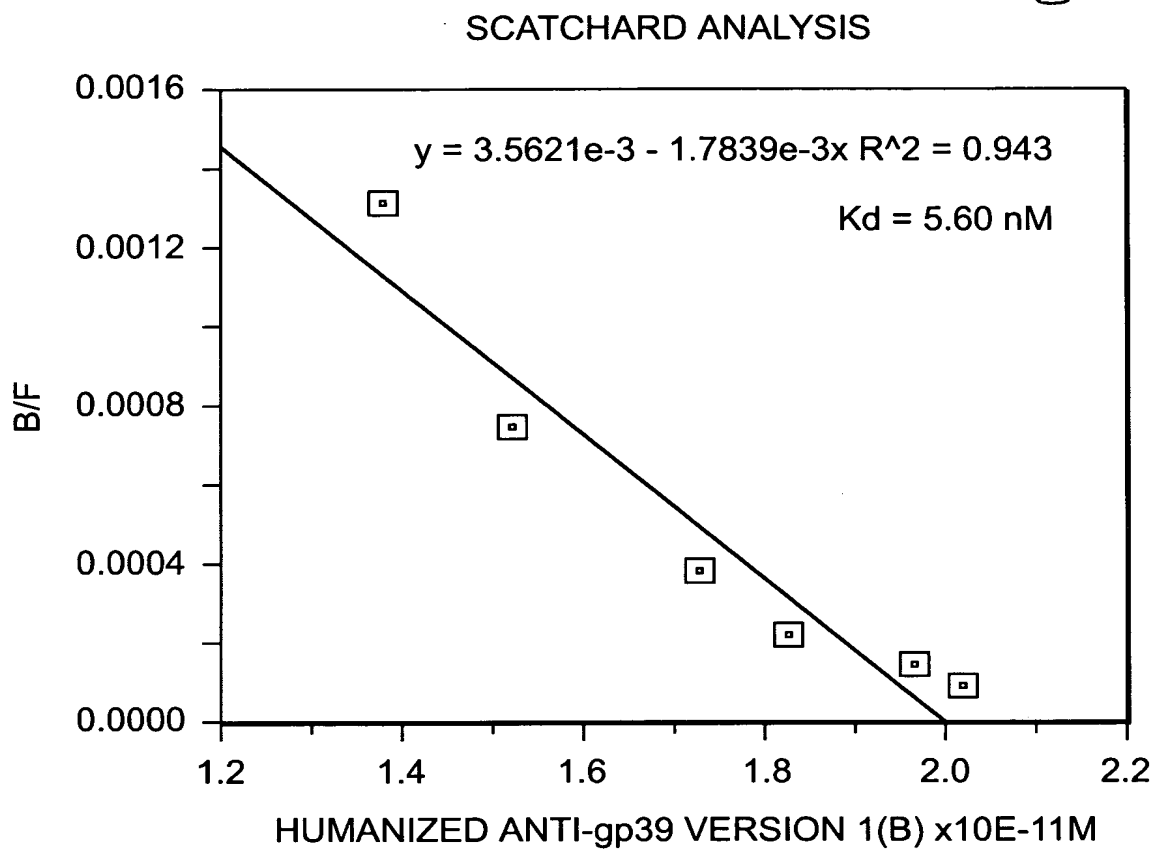


FIG. 14



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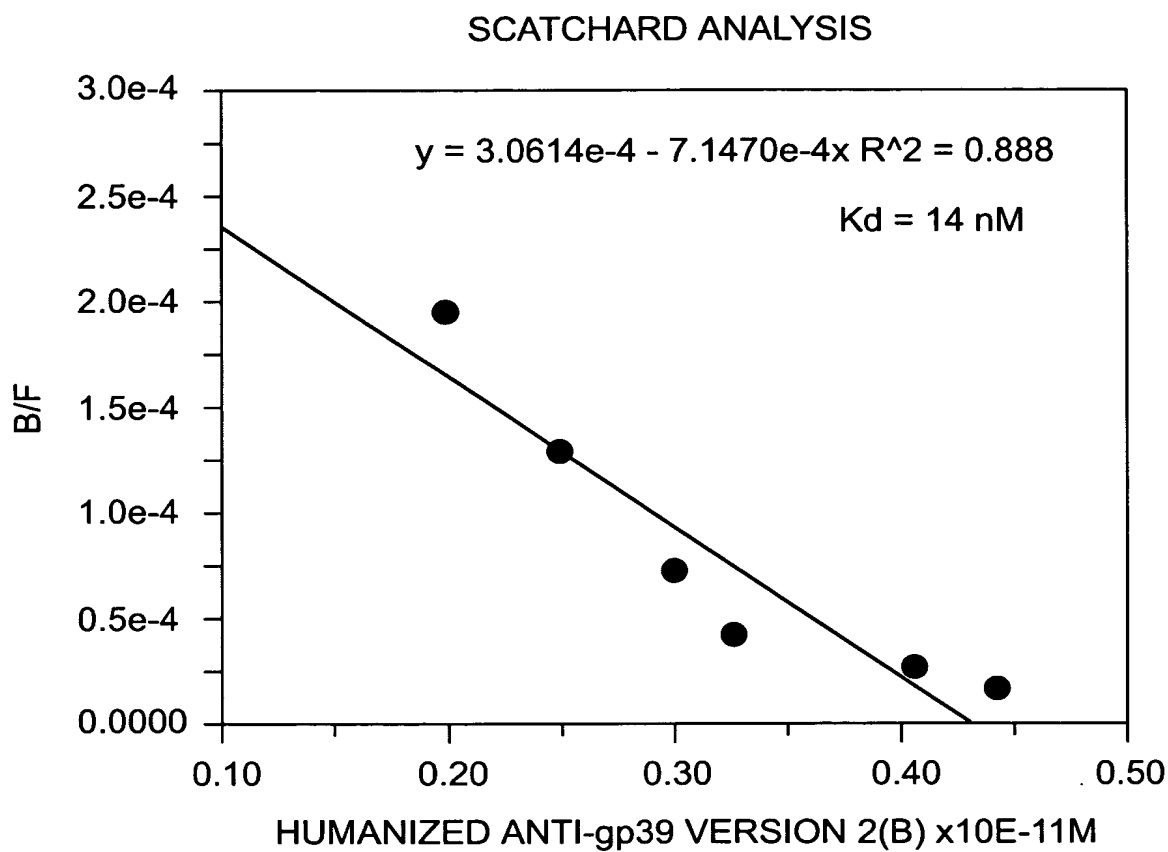
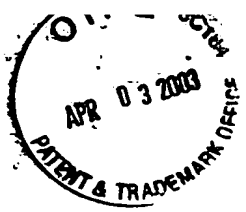


FIG. 15



APPROVED BY DRAFTSMAN	O.G. FIG.	
	CLASS	SUBCLASS

SOLUBLE ANTI-CD40L ANTIBODY (TRAP1) STIMULATES IL-4 CYTOKINE RELEASE FROM CD4+ T CELLS IN PRESENCE OF IMMOBILIZED ANTI-CD3

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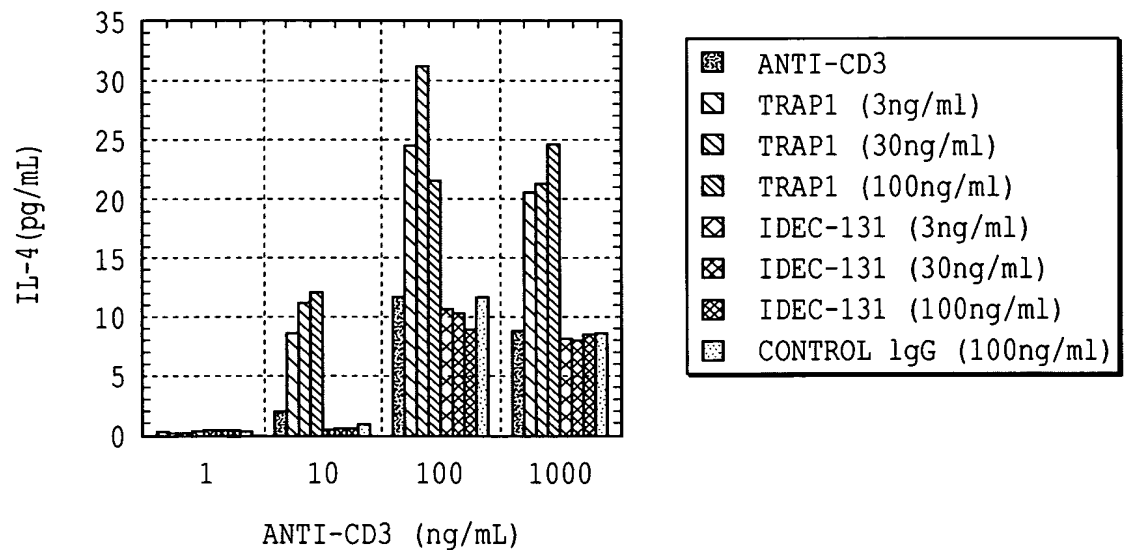


FIG. 17

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STIMULATION OF IL-2 BY AGONIST TRAP1 ANTI-CD40L IS DEPENDENT ON CO-STIMULATION WITH ANTI-CD3 AND SIGNALING THROUGH CD40L

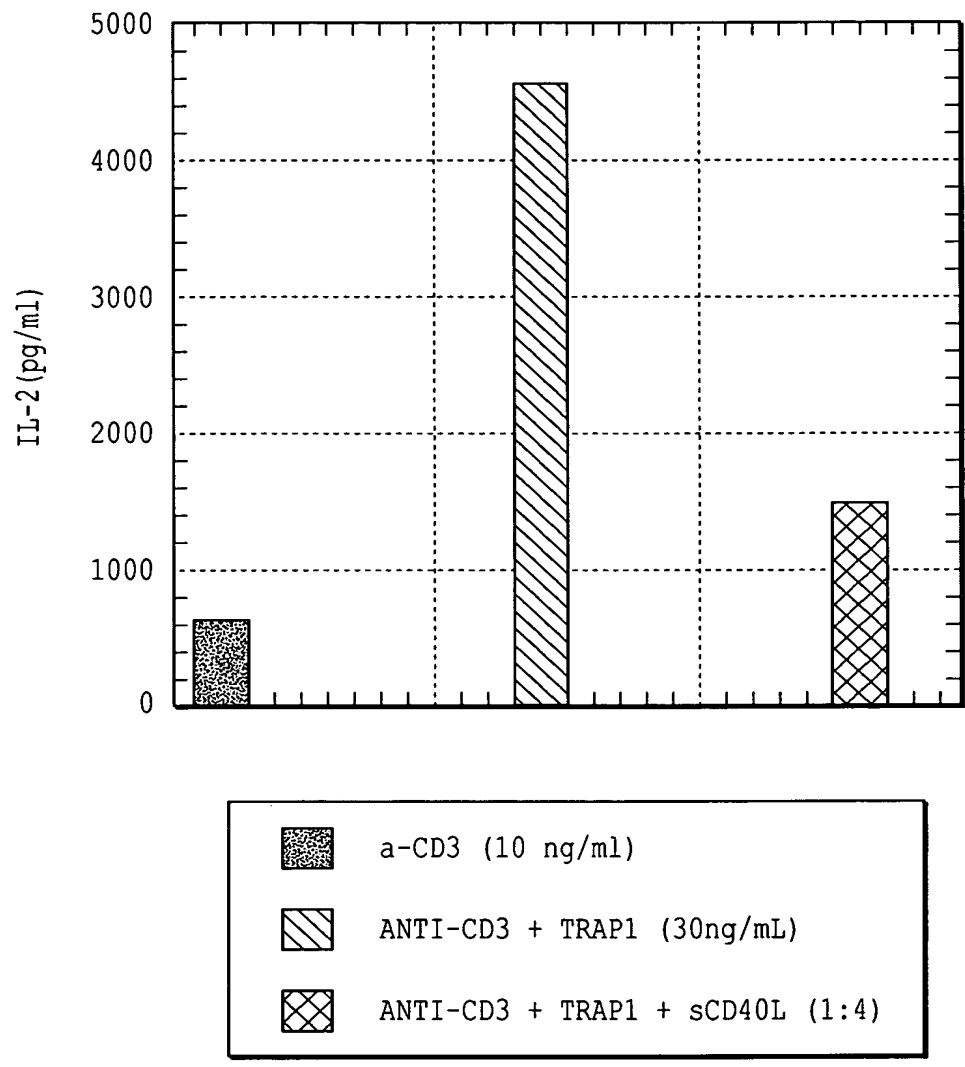


FIG. 18



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SOLUBLE ANTI-CD40L ANTIBODY (TRAP1) STIMULATES GAMMA INTERTERON RELEASE FROM CD4+ T CELLS IN PRESENCE OF IMMOBILIZED ANTI-CD3

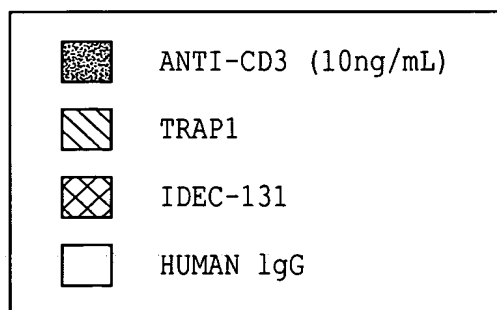
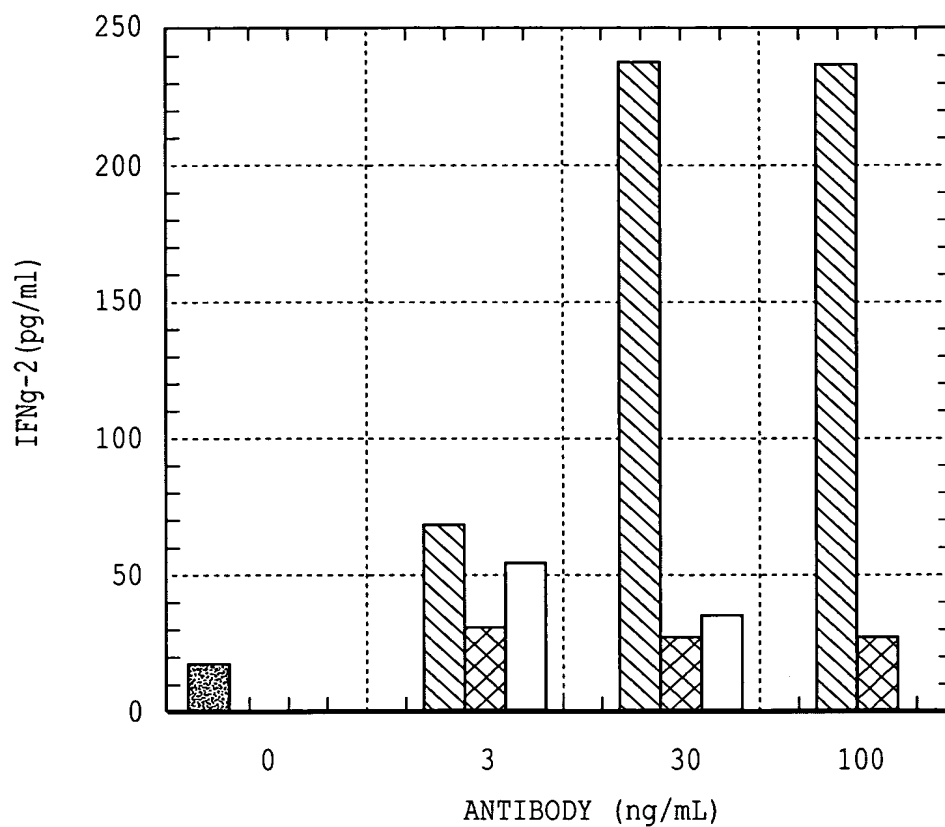


FIG. 19



APPROVED	D.C. FIG.	SUBCLASS
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EFFECT OF ANTI-CD40L MONOCLONAL ANTIBODIES ON PROLIFERATION OF HUMAN CD4 - T CELLS IN VITRO

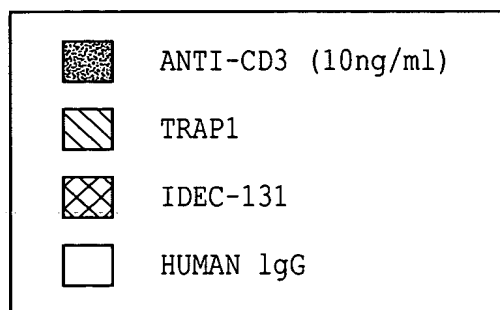
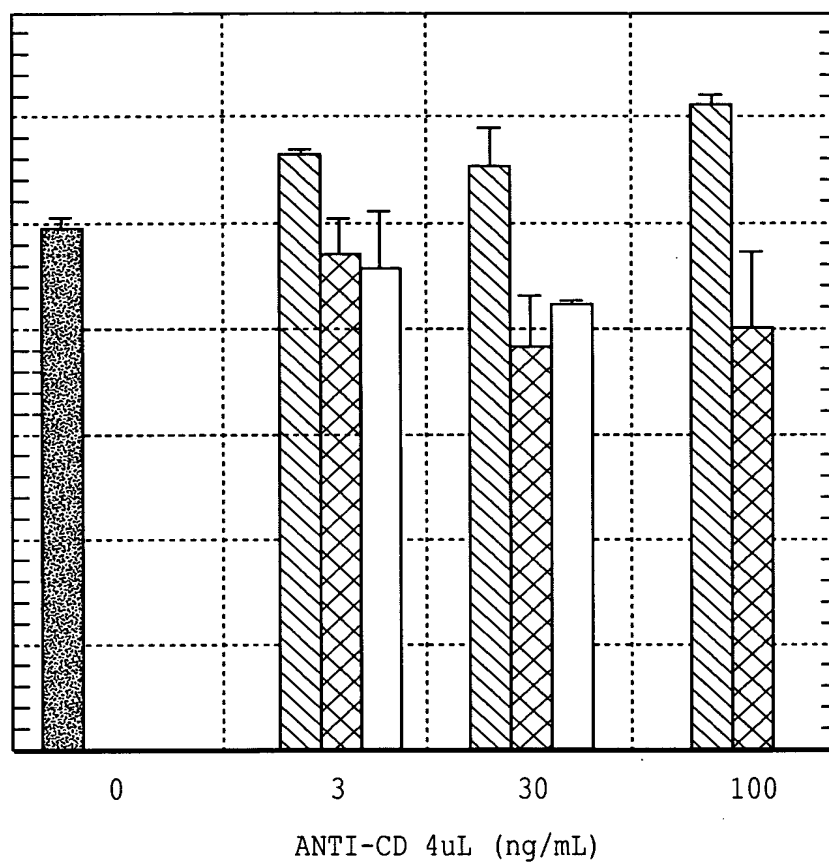


FIG. 20